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Polyethylene and ethylene copolymers

State: high density homopolymer

Material Properties

Mechanical Properties

Condition

State 1 State 2

Elastic Modulus (MPa) 1070 - 1091 tensile

Flexural Modulus (MPa) 1001 - 1553 23 °C

Tensile Strength (MPa) 23 - 32 at break

Compressive Strength (MPa) 27 - 34 at yield

at yield or break 19 - 25

Elongation at break (%) 10 - 1200

Hardness 66 - 73 Shore D

Izod Impact (J/cm of notch) 0.2 - 2.1

1/8" thick specimen unless noted

Thermal Properties

Condition

Pressure State

Coef of Thermal Expansion ($10^{-6}/^{\circ}\text{C}$) 59 - 110Deflection Temperature ($^{\circ}\text{C}$) 80 - 92 0.46 MPaThermal Conductivity (W/m- $^{\circ}\text{C}$) 0.460 - 0.502

Physical & Electrical Properties

Condition

State

Specific Gravity 0.952 - 0.965

Water Absorption (% weight increase) 0 - 0.01 after 24 hr

Dielectric Strength (V/mil); 450 - 500

1/8" thick specimen unless noted

Processing Properties

Condition

Type

Melt Flow (gm/10 min) 5 - 18

Melting Temperature ($^{\circ}\text{C}$) 130 - 137 T_m , crystallineProcessing Temperature ($^{\circ}\text{C}$) 177 - 260 injection molding

177 - 274 extrusion

Molding Pressure (MPa) 83 - 104

Compression Ratio 2

Linear Mold Shrinkage (cm/cm)

0.015 - 0.04

Suppliers

<u>A. Schulman</u>	Akron, OH 800-
<u>American Polymers, Inc.</u>	Worcester, MA
<u>Bamberger Polymers, Inc.</u>	Jericho, NY
<u>Chevron Chemical Co.</u>	Houston, TX 800-
<u>Dow Plastics</u>	Midland, MI 800-
<u>Eastman Chemical Co.</u>	Kingsport, TN 800-
<u>Equistar Chemicals LP</u>	Houston, TX 888-
<u>Exxon Chemical Canada</u>	Toronto, Ontario, M5W 1K3, Canada
<u>Exxon Chemical Co.</u>	Houston, TX 800-
<u>Federal Plastics Corp.</u>	Cranford, NJ 800-
<u>Fina Oil & Chemical Co.</u>	Dallas, TX 800-
<u>M.A. Industries, Inc.</u>	Peachtree City, GA 800-
<u>Mobil Chemical Co.</u>	Edison, NJ
<u>Network Polymers, Inc.</u>	Akron, OH 888-
<u>NOVA Chemicals, Ltd.</u>	Calgary, Alberta T2P 5C6, Canada
<u>Phillips Chemical Co.</u>	Bartlesville, OK 800-
<u>R.S.G. Polymers Corp.</u>	Stony Brook, NY
<u>Shuman Plastics, Inc.</u>	Depew, NY
<u>Solvay Polymers, Inc.</u>	Houston, TX 800-
<u>Ticona</u>	Summit, NJ 800-
<u>Union Carbide Corp.</u>	Danbury, CT 800-

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